

Claims

What is claimed is:

1. A method of routing traffic between elements of a network so as to provide protection against network failures, the method comprising the steps of:

5 routing a given traffic demand from a first network element to a second network element; and

processing the traffic demand in the second network element such that a copy of a signal associated with the demand is at least one of: (i) retained at the second network element, while the signal is routed to at least one additional network element; and (ii) routed to at least one additional network element, while the signal is routed to at least one network element other than the additional network element.

2. The method of claim 1 wherein the first network element comprises a source network element of the traffic demand.

3. The method of claim 1 wherein the second network element comprises an element of a ring-type transport.

4. The method of claim 1 wherein the second network element comprises an element of a mesh-type transport.

5. The method of claim 1 wherein the copy of the signal associated with the demand is generated and retained at the second network element and the signal continues on to another network element.

6. The method of claim 1 wherein a copy of the signal is generated at each of a set of multiple network elements including the second network element.

7. The method of claim 1 wherein the copy of the signal associated with the demand comprises at least a portion of a multicast of the signal generated by the second network element and multicast to at least two other network elements.

5 8. The method of claim 1 wherein the second network element is an element of a set of dual-homed network elements.

9. The method of claim 1 wherein the at least one additional network element is an element of a set of dual-homed network elements.

10 10. An apparatus for routing traffic between elements of a network so as to provide protection against network failures, the apparatus comprising:

 a given network element coupled to one or more additional network elements and operative to process a traffic demand received from one of the additional network elements such that a copy of a signal associated with the demand is at least one of: (i) retained at the given network element, while the signal is routed to at least one of the additional network elements; and (ii) routed to at least one of the additional network elements, while the signal is routed to at least one network element other than the one of the additional network elements.

20 11. The apparatus of claim 10 wherein the traffic demand is received at the given network element from a source network element of the traffic demand.

12. The apparatus of claim 10 wherein the given network element comprises an element of a ring-type transport.

25 13. The apparatus of claim 10 wherein the given network element comprises an element of a mesh-type transport.

14. The apparatus of claim 10 wherein the copy of the signal associated with the demand is generated and retained at the given network element and the signal continues on to another network element.

5 15. The apparatus of claim 10 wherein a copy of the signal is generated at each of a set of multiple network elements including the given network element.

10 16. The apparatus of claim 10 wherein the copy of the signal associated with the demand comprises at least a portion of a multicast of the signal generated by the given network element and multicast to at least two other network elements.

 17. The apparatus of claim 10 wherein the given network element is an element of a set of dual-homed network elements.

15 18. The apparatus of claim 10 wherein at least one of the additional network elements is an element of a set of dual-homed network elements.

 19. An apparatus for routing traffic between elements of a network so as to provide protection against network failures, the apparatus comprising:

20 a first network element; and

 a second network element coupled to the first network element, the first network element routing a given traffic demand to the second network element, the second network element processing the traffic demand such that a copy of a signal associated with the demand is at least one of: (i) retained at the second network element, while the signal is routed to at least one additional network element; and (ii) routed to at least one additional network element, while the signal is routed to at least one network element other than the additional network element.